

WHAT IS CLAIMED IS:

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1. An implantable composite tubular prosthesis comprising:
a first substantially continuous PTFE tubular body;
a second perimetrically non-continuous tubular body; and
a circumferentially deformable support structure interposed between said

5 tubular bodies,

said second tubular body being formed of a plurality of elongate
polytetrafluoroethylene strips, said strips secured to the first tubular body, arranged
longitudinal in non-over-lapping relationship, whereby axial and radial compliance
is provided to said prosthesis.

2. The composite tubular prosthesis according to claim 1, wherein said
first tubular body is an inner tubular body and said second tubular body is an outer
tubular body of said prosthesis.

3. The composite tubular prosthesis according to claim 1, wherein said
first tubular body is an outer tubular body and said second tubular body is an inner
tubular body of said prosthesis.

4. The composite tubular prosthesis according to claim 1, wherein the
PTFE of said first body is expanded PTFE.

5. The composite tubular prosthesis according to claim 1, wherein said
deformable support structure is a stent.

6. The composite intraluminal prosthesis according to claim 1, wherein the deformable support structure comprises a plurality of spaced apart circumferentially extending bands.

7. The composite tubular prosthesis according to claim 1, wherein said PTFE second tubular body is wrapped by a material selected from the group consisting of yarns, fibers, sheets and tubes.

112 8. The composite tubular prosthesis according to claim 1, wherein said strips of said second tubular body is a wrap configuration secured to said first body; said wrap configuration selected from the group consisting of a segmented tube, a segmented helical wrap, a continuous non-overlapping helical strip, one or more longitudinal oriented strips and a plurality of segmented longitudinal helical strips.

9. The composite intraluminal prosthesis according to claim 1, wherein the substantially continuous body is formed of a sheet or spirally wrapped strip.

10. The composite intraluminal prosthesis as in claim 1, wherein the first tubular body is an extruded PTFE tube.

11. The composite intraluminal prosthesis as in claim 1, wherein the PTFE of said second body is ePTFE.

12. The composite intraluminal prosthesis according to claim 1, wherein the deformable support structure is a wire stent with longitudinally adjacent waves being nested along the length of the tubular body and peaks of said longitudinally nested waves are linearly aligned.

13. The composite intraluminal prosthesis according to claim 1, wherein the first body is secured to said second body by thermal bonding.

¹¹² 14. The composite intraluminal prosthesis according to claim 1, wherein the second polytetrafluoroethylene body comprises segments of polytetrafluoroethylene strips.

15. The composite intraluminal prosthesis according to claim 1, wherein said continuous polytetrafluoroethylene tubular first body is comprised of a sheet of expanded polytetrafluoroethylene formed into a tubular shape by wrapping said sheet about a longitudinal axis.

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16. An implantable composite intraluminal prosthesis comprising:
a first perimetrically non-continuous polytetrafluoroethylene tubular inner
body;
a second perimetrically non-continuous polytetrafluoroethylene outer tubular
body, and
a circumferentially deformable support structure interposed between the inner
and outer tubular bodies,

both said outer tubular body and said inner tubular body being formed of
polytetrafluoroethylene strips, having a longitudinal length greater than its width, and
said strips within each tubular body arranged in non-overlapping relationship, with
the strips of the inner tubular body overlapping the discontinuities of the outer
tubular body, and secured in the overlap, whereby axial and circumferential
compliance is provided to said prosthesis.

17. A method of providing axial and circumferential compliance to an
intraluminal prosthesis stent/graft composite comprising:

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- a) providing a first substantially continuous polytetrafluoroethylene
tubular body;
- b) positioning a deformable support structure over the tubular first body;
- c) positioning PTFE strip components in non-overlapping relationship,
lengthwise along the length of the first body and support structure to
form a tubularly shaped second body; and
- d) attaching the strips of the second body to the first body.



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